

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P270401

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270401
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-5MQ-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16759.8 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

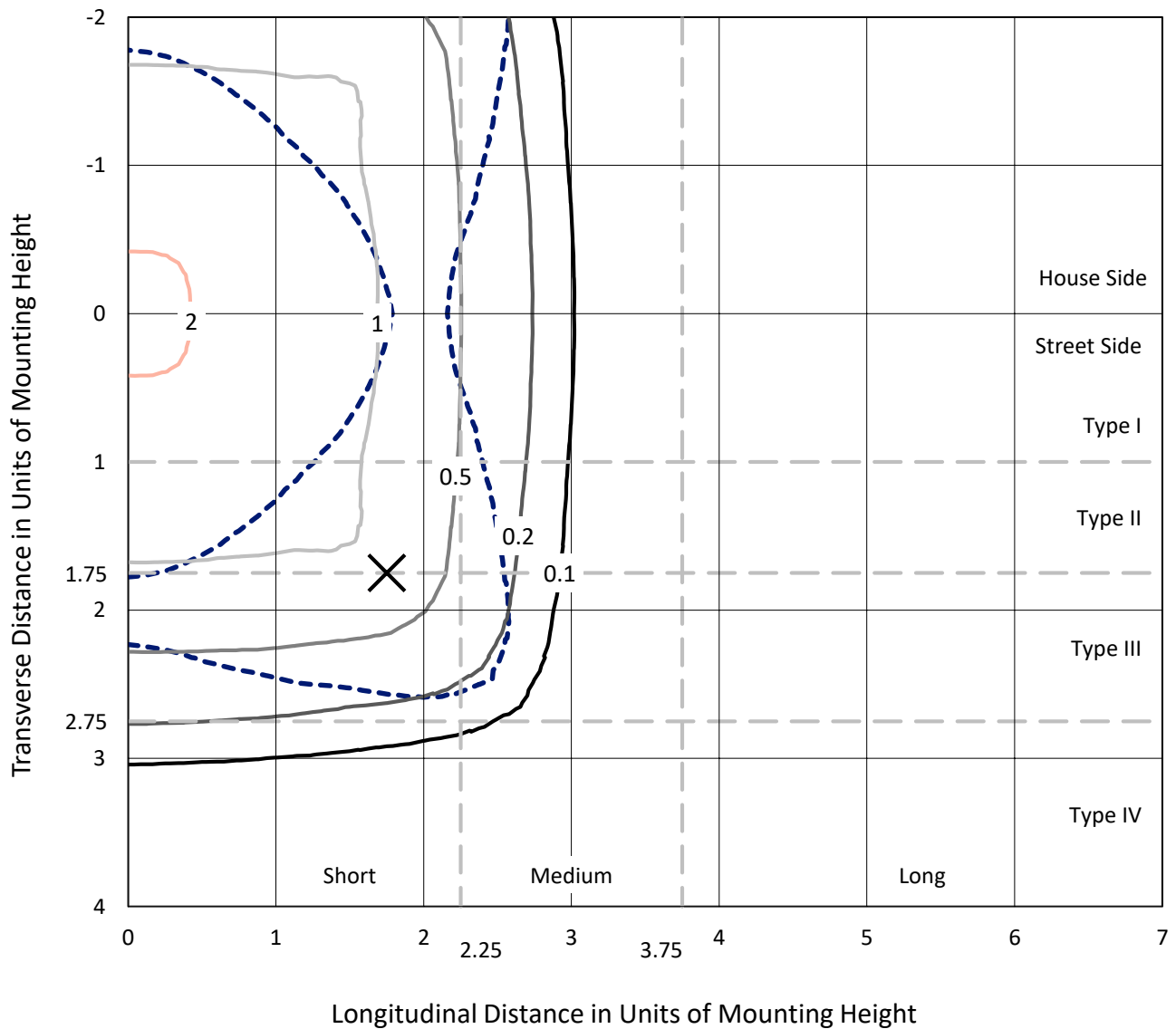


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Iso-Footcandle Lines of Horizontal Illumination

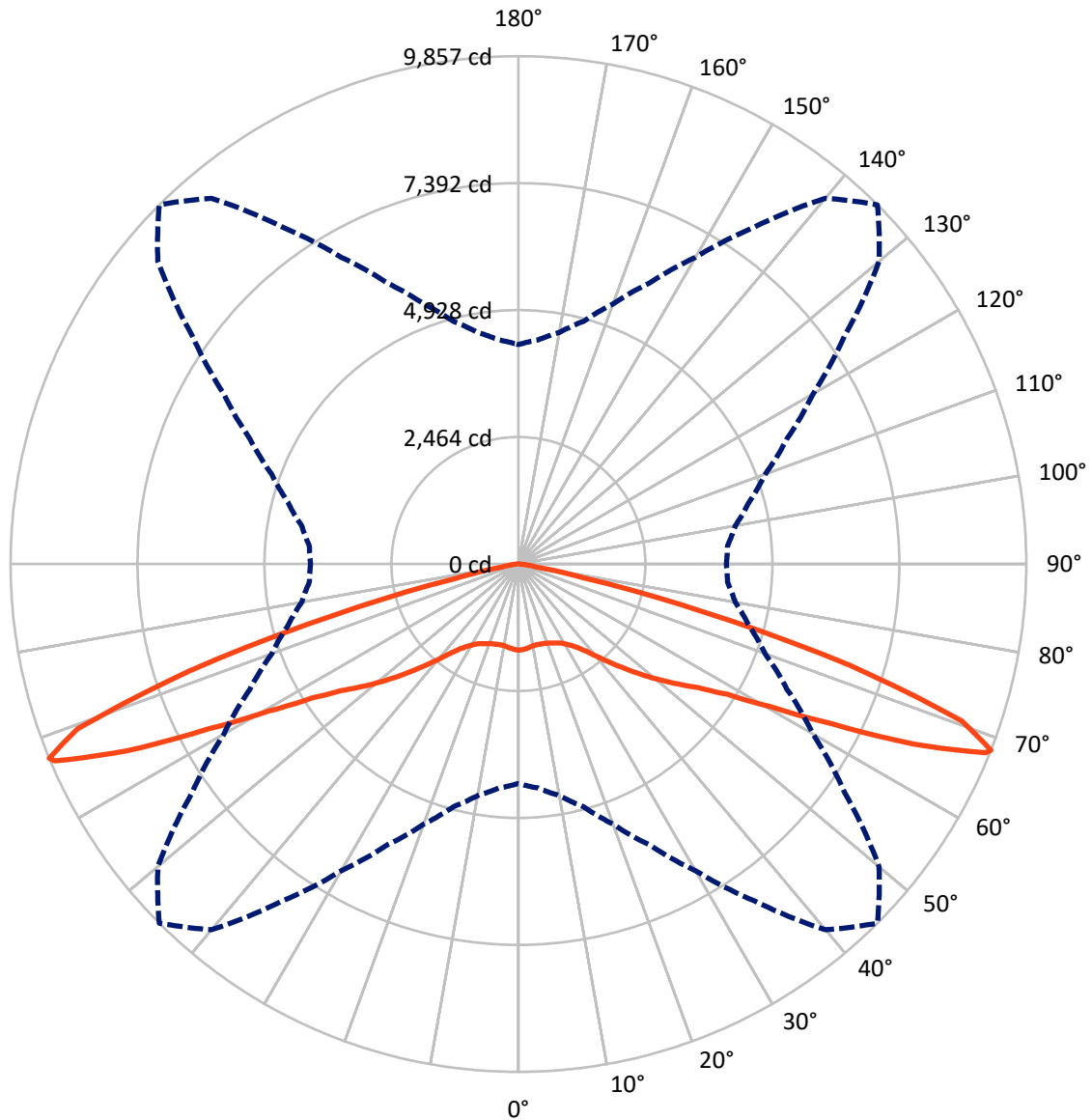
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8379.9	0.0	8379.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8379.9	0.0	8379.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	16759.8	0.0	16759.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.4	0.9
10°-20°	453.7	2.7
20°-30°	771.3	4.6
30°-40°	1262.3	7.5
40°-50°	2255.9	13.5
50°-60°	3809.8	22.7
60°-70°	5907.6	35.2
70°-80°	2031.2	12.1
80°-90°	111.6	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	16759.8	100.0
0°-180°	16759.8	100.0



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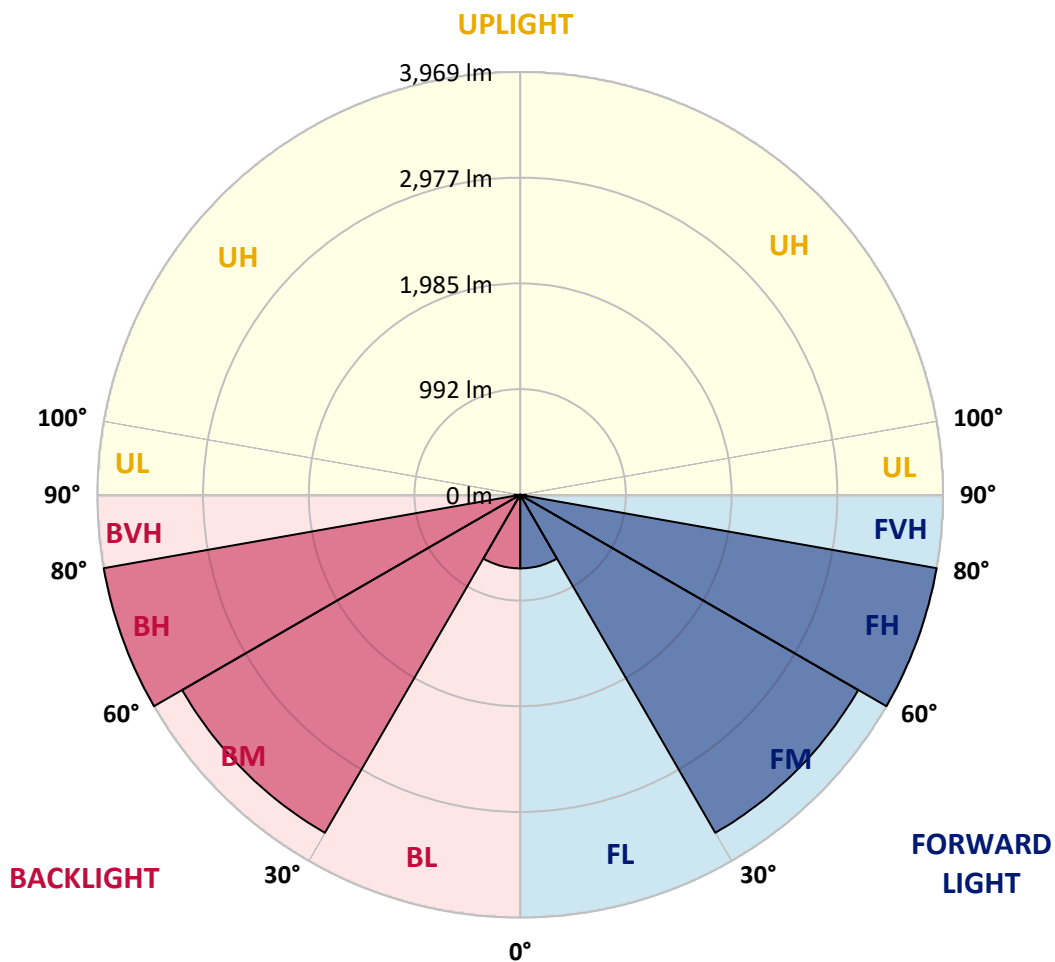
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	690.7	4.1			
FM	(30°-60°)	3664.0	21.9			
FH	(60°-80°)	3969.4	23.7			G2/5000
FVH	(80°-90°)	55.8	0.3			G1/100
BL	(0°-30°)	690.7	4.1	B2/1000		
BM	(30°-60°)	3664.0	21.9	B3/5000		
BH	(60°-80°)	3969.4	23.7	B4/5000		G2/5000
BVH	(80°-90°)	55.8	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8
2.5°	1679.0	1679.0	1681.1	1680.0	1677.0	1673.9	1670.8	1667.8	1665.6	1663.7	1661.5
5°	1661.5	1661.5	1664.6	1662.7	1660.5	1657.5	1655.4	1652.3	1650.2	1648.2	1649.3
7.5°	1639.0	1641.1	1643.1	1642.1	1638.0	1636.9	1633.8	1632.8	1630.9	1627.6	1628.7
10°	1619.6	1620.5	1622.6	1621.5	1620.5	1617.5	1616.4	1615.4	1614.3	1610.2	1609.3
12.5°	1600.1	1602.0	1604.2	1605.1	1604.2	1605.1	1606.2	1607.2	1606.2	1604.2	1604.2
15°	1584.6	1586.6	1589.7	1592.9	1593.9	1600.1	1604.2	1608.2	1611.3	1612.3	1609.3
17.5°	1576.3	1579.5	1583.6	1589.7	1594.9	1602.0	1609.3	1615.4	1620.5	1621.5	1618.4
20°	1575.4	1578.4	1584.6	1591.7	1601.0	1610.2	1621.5	1630.9	1636.0	1639.0	1636.0
22.5°	1582.5	1586.6	1594.9	1604.2	1615.4	1627.6	1642.1	1652.3	1662.7	1666.7	1663.7
25°	1603.0	1607.2	1616.4	1627.6	1640.0	1655.4	1669.8	1683.2	1693.3	1698.5	1694.5
27.5°	1646.1	1647.2	1657.5	1669.8	1684.1	1697.4	1715.9	1722.1	1730.3	1735.4	1730.3
30°	1706.7	1708.8	1718.0	1737.5	1750.8	1768.4	1778.6	1784.8	1793.9	1799.0	1792.9
32.5°	1799.0	1801.1	1809.4	1827.8	1840.2	1853.6	1865.8	1869.9	1879.2	1885.4	1878.1
35°	1929.4	1933.5	1940.7	1953.1	1963.2	1973.5	1982.7	1979.8	1986.0	1994.1	1987.0
37.5°	2108.1	2107.0	2109.0	2118.3	2128.5	2134.7	2149.0	2141.9	2148.0	2155.3	2151.1
40°	2316.4	2316.4	2315.3	2331.7	2335.9	2342.1	2357.4	2348.2	2356.3	2364.6	2357.4
42.5°	2553.4	2557.6	2562.7	2576.0	2587.3	2589.4	2596.6	2592.4	2602.7	2609.8	2602.7
45°	2826.4	2832.5	2838.7	2869.5	2874.7	2878.8	2883.9	2870.5	2881.9	2888.1	2886.0
47.5°	3109.8	3121.0	3134.2	3166.2	3186.6	3195.9	3200.0	3184.6	3185.6	3194.8	3195.9
50°	3429.9	3442.1	3455.5	3491.4	3510.9	3527.4	3532.6	3515.1	3517.1	3524.3	3526.3
52.5°	3725.5	3739.9	3768.6	3816.8	3844.4	3873.2	3875.3	3853.8	3863.0	3868.1	3864.0
55°	4003.6	4022.0	4060.0	4124.7	4175.0	4231.5	4257.1	4233.5	4233.5	4229.4	4227.3
57.5°	4327.9	4348.4	4387.4	4462.3	4532.0	4613.2	4683.0	4706.6	4749.7	4764.2	4741.6
60°	4816.4	4837.9	4877.9	4976.5	5064.7	5182.9	5297.8	5391.2	5543.0	5625.1	5551.3
62.5°	5262.8	5295.7	5390.1	5562.6	5753.5	5972.0	6225.6	6406.2	6682.2	6819.8	6634.1
65°	5161.2	5228.0	5412.6	5683.7	6077.8	6551.9	7068.1	7563.8	8134.4	8426.9	8049.3
67.5°	4508.6	4564.9	4764.2	5079.1	5570.7	6224.4	7027.0	8053.3	9230.5	9778.6	9110.4
68°	4259.1	4364.9	4562.9	4875.9	5371.7	6014.2	6871.0	7979.5	9264.4	9856.6	9135.0
70°	3265.7	3303.6	3493.5	3774.7	4309.3	4939.6	5804.8	7068.1	8520.3	9130.0	8388.0
72.5°	1551.7	1574.3	1697.4	1974.7	2314.4	2827.4	3591.1	4782.5	6091.0	6725.3	5985.3
75°	568.5	573.7	602.5	668.1	795.4	988.3	1354.7	2095.7	3102.4	3699.8	3114.9
77.5°	307.0	307.8	319.2	335.5	358.2	383.8	439.2	589.1	950.3	1293.1	1003.8
80°	193.0	191.9	203.1	216.5	231.9	244.2	249.4	266.8	300.8	352.0	323.3
82.5°	98.5	107.7	133.4	147.9	170.4	174.5	169.3	168.3	178.6	193.0	199.2
85°	54.3	48.1	70.8	94.4	102.6	105.7	106.7	100.6	98.5	96.5	101.6
87.5°	27.7	25.6	30.8	47.3	50.2	41.1	42.1	35.9	24.7	24.7	25.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8	1671.8
2.5°	1659.4	1660.5	1658.5	1658.5	1658.5	1659.4	1658.5	1657.5
5°	1646.1	1648.2	1648.2	1649.3	1650.2	1650.2	1650.2	1650.2
7.5°	1626.7	1627.6	1629.7	1629.7	1629.7	1629.7	1629.7	1629.7
10°	1608.2	1606.2	1605.1	1603.0	1603.0	1600.1	1601.0	1602.0
12.5°	1599.0	1594.9	1592.9	1589.7	1587.7	1584.6	1584.6	1585.6
15°	1603.0	1596.8	1590.8	1588.7	1586.6	1584.6	1582.5	1583.6
17.5°	1611.3	1604.2	1596.8	1592.9	1588.7	1585.6	1584.6	1585.6
20°	1628.7	1618.4	1607.2	1600.1	1591.7	1589.7	1586.6	1589.7
22.5°	1652.3	1640.0	1625.7	1612.3	1603.0	1599.0	1594.9	1597.9
25°	1681.1	1667.8	1653.4	1638.0	1627.6	1624.7	1619.6	1619.6
27.5°	1721.2	1709.8	1697.4	1683.2	1672.9	1669.8	1661.5	1661.5
30°	1784.8	1773.4	1762.1	1749.9	1739.6	1736.6	1726.3	1726.3
32.5°	1868.8	1856.5	1849.4	1839.1	1830.9	1825.7	1813.5	1812.4
35°	1981.8	1970.5	1969.4	1962.3	1954.1	1955.2	1942.8	1940.7
37.5°	2144.0	2134.7	2137.7	2131.6	2124.4	2130.6	2123.5	2123.5
40°	2351.3	2348.2	2351.3	2347.1	2348.2	2349.2	2343.0	2345.0
42.5°	2601.8	2593.4	2611.9	2609.8	2606.8	2615.0	2600.7	2590.4
45°	2890.0	2887.0	2905.5	2908.5	2902.3	2907.5	2881.9	2880.9
47.5°	3203.0	3203.0	3219.4	3217.4	3211.4	3212.2	3181.4	3162.0
50°	3529.4	3527.4	3543.9	3539.7	3531.4	3530.5	3498.7	3479.1
52.5°	3869.1	3869.1	3892.7	3881.4	3862.0	3852.7	3813.8	3788.1
55°	4244.9	4239.6	4246.7	4209.8	4171.9	4144.2	4095.9	4076.5
57.5°	4720.0	4660.3	4609.2	4562.0	4508.6	4475.6	4419.2	4398.7
60°	5394.2	5235.1	5166.4	5072.0	4983.6	4939.6	4864.6	4824.6
62.5°	6328.1	6064.4	5877.6	5669.3	5468.2	5326.5	5212.5	5162.3
65°	7407.9	6833.0	6357.9	5911.4	5532.8	5232.1	5064.7	5012.5
67.5°	7818.3	6763.2	5943.2	5302.9	4843.1	4484.9	4284.7	4242.8
68°	7731.2	6603.3	5751.4	5095.5	4633.7	4272.5	4073.4	4035.4
70°	6819.8	5570.7	4671.6	4018.9	3587.9	3244.0	3103.6	3043.0
72.5°	4649.1	3577.7	2744.3	2195.3	1873.0	1655.4	1526.1	1481.9
75°	2139.9	1446.0	965.8	721.5	612.7	560.4	520.4	510.1
77.5°	624.1	453.6	390.0	361.3	339.6	321.2	307.8	307.0
80°	296.6	278.1	269.9	251.4	231.9	214.4	202.2	204.3
82.5°	199.2	193.9	193.9	175.4	144.6	124.1	102.6	92.3
85°	105.7	109.9	116.1	109.9	95.4	70.8	46.3	50.2
87.5°	35.9	41.1	43.1	42.1	38.0	28.7	21.6	21.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)